

REMARKS

Reconsideration and allowance of the above-referenced application are respectfully requested.

Upon entry of this amendment, claims 1, 2, and 4-22 will remain in the application.

Section 102/103 rejections

Claims 2 and 4-22 were rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Matsushima (US 5,917,563).

Applicants teach providing a thin film transistor and a capacitor below a region in a pixel in which disclination is likely to occur. Disclination is an alignment disorder of liquid crystal molecules due to surface roughness or a lateral electric field (page 6, lines 18-20). Disclination be caused by a rubbing operation (page 12, lines 8-18 and FIG. 5). Disclination in a region of a pixel may result in dark lines, thereby making that region inappropriate for display.

The rejected independent claims 2, 4, 5, 8, 11, 14, 17 and 20 recite that a disclination exists in a region where the capacitor is located below the region (as recited in claims 8 and 11), a disclination exists in a region comprising the corner of the pixel where the capacitor is located (claims 4 and 14), a disclination exists in a region comprising one corner of the pixel where at least a part of the active layer of the thin film transistor connected with the capacitor is located (as recited in claim 17), a disclination exists in a region comprising one corner of the pixel where at least a part of the active layer of the thin film transistor connected with a capacitor and the capacitor are located (claims 2 and 20), and a disclination

exists in a region including the capacitor and a corner where rubbing originates (claim 5, as amended).

The Action asserts that the technique disclosed by Matsushima does not completely eliminate the disclination. However, Matsushima does not disclose or suggest that a part of the active layer of the thin film transistor connected with a capacitor or the capacitor are located in the region in which the disclination occurs. Because Matsushima does not disclose where rubbing is started or the rubbing direction, Matsushima does not identify where disclination is likely to occur. Furthermore, Matsushima does not teach or suggest any relation between the location of the disclination and a capacitor. By recommending the secure rubbing process to eliminate disorder of the alignment of liquid crystal (col. 6, ll. 14-17 and col. 15, ll. 11-14), Matsushima teaches away from providing a disclination in any region of the pixel. Accordingly, Applicants submit that a disclination in a region including the capacitor is not inherent to the device disclosed in Matsushima, nor would including a disclination region in a region including the capacitor be obvious to one skilled in the art.

Double Patenting Rejection

Claims 1, 2, and 4 are rejected under judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 10, and 16 of U.S. Patent No. 6,088,070.

Applicants have prepared a Terminal Disclaimer and it will be forwarded to complete this Response as soon as the executed document has been received in our office.

VERSION TO SHOW CHANGES MADE

In the Claims:

Claim 5 has been amended as follows.

5. (Amended) An active matrix device comprising:
a first substrate;
a second substrate opposed to said first substrate;
a thin film transistor formed over said first substrate,
said thin film transistor comprising an active layer;
an interlayer insulating film formed over the thin film
transistor;
at least two source lines formed over said thin film
transistor;
at least two gate lines intersecting to said two source
lines respectively;
a metal interconnection connected to said active layer
through a first contact hole formed in the interlayer insulating
film;
a pixel [having a rectangular shape surrounded] by said
two source lines and said two gate lines;
a light blocking film formed over said thin film
transistor;
a capacitor formed between a portion of said metal
interconnection and said light blocking film with a second
interlayer insulating film interposed therebetween;
a pixel electrode formed over said light blocking film;
and
liquid crystal molecules arranged between said first
substrate and said second substrate, said liquid crystal molecules
oriented by rubbing in one direction from one corner of said
pixel,
wherein said portion is apart from the contact hole, and

wherein a disclination of said liquid crystal molecules is occurred in a region comprising said one corner, and wherein said region and said capacitor [light blocking film] overlaps with each other.